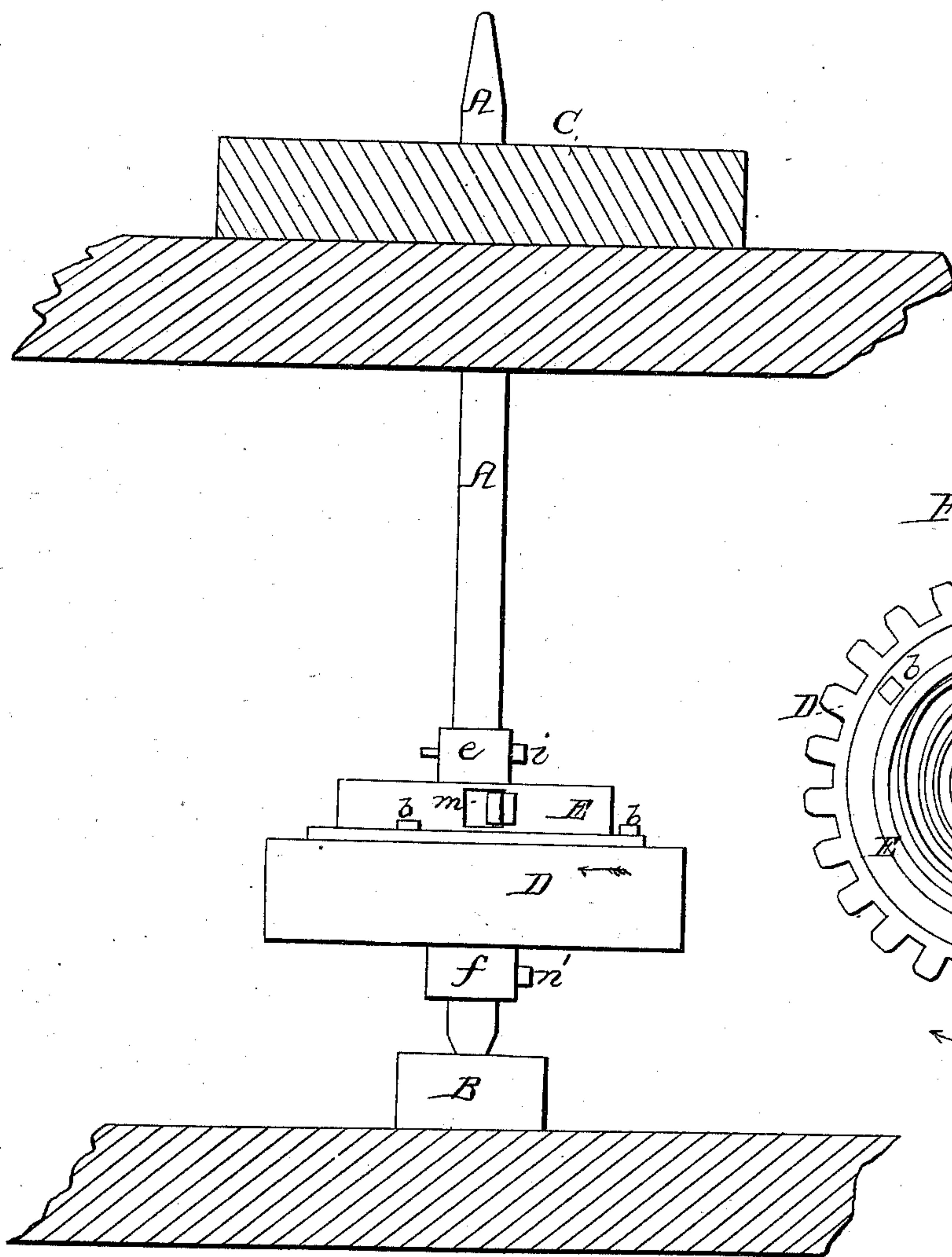


T. ALSOP.
 SPRING FOR MILL SPINDLES.

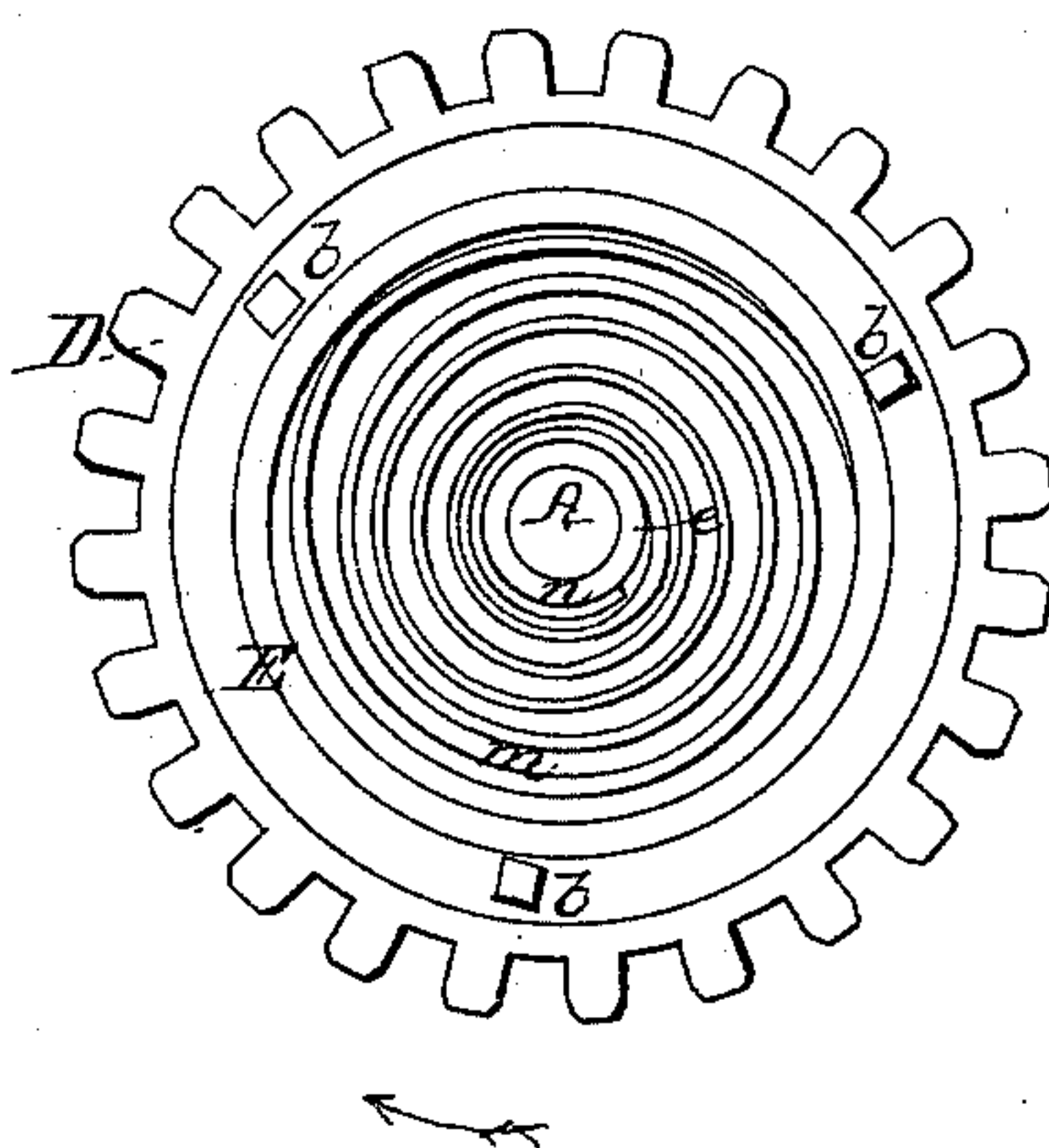
No. 81,456.

Patented Aug. 25, 1868.

Fig; 1.



Fig; 2.



Witnesses;
 Jas. Jewell
 Wm. J. Donoran

Inventor;
 Thomas Alsop

United States Patent Office.

THOMAS ALSOP, OF ELKHART CITY, ILLINOIS.

Letters Patent No. 81,456, dated August 25, 1868.

IMPROVEMENT IN THE MODE OF ATTACHING SPRINGS TO MILL-SPINDLES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, THOMAS ALSOP, of the town of Elkhart City, in the county of Logan, and State of Illinois, have invented a new and useful Improvement on Springs for Mill-Spindles; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view, and

Figure 2 is a vertical view.

The object of my invention is to prevent the jar or backlash so generally found in mill-gearing.

A represents the mill-spindle, having its bearings in the step B and the lower millstone C. D is the pinion, by which motion is communicated to the spindle A. E is a metallic case, fastened to the pinion by the bolts *b b b*, and having an opening, or other suitable device, to which the outer coil of the spring *m* is attached. *e* is a sleeve, fitting upon the spindle, sufficiently loose to be easily raised and lowered, and prevented from turning upon the spindle by the bolt *i*, or other suitable device, and attached to the spring *m* by the catch *n*. The pinion D is supported by the hub *f*, which is fastened upon the spindle by a set-screw, *n'*.

It will be seen that, when the pinion D is moved in the direction indicated by the arrow, it will communicate motion to the spindle A through the spring *m*, the elasticity of which will equalize its motion, and the pinion D may at any time be easily disconnected from its driving-wheel, by raising it with the spring *m* and the sleeve *e* upon the spindle.

I do not claim the use of a spring for equalizing the motion, as I am aware that springs of various kinds have been in use for that purpose.

I claim the combination of case E, pinion D, shaft A, and spring *m*, with its outer end attached to the case E, and the inner end attached to the spindle by the sleeve *e*, arranged substantially as described, and for the purpose specified.

THOMAS ALSOP.

Witnesses:

THOS. JEWELL,

WM. J. DONOVAN.